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Personally Identifiable Information

R718104

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31 Prog.

CLIMATIC TEST OF A W31 FIRESET  
TO STS STORAGE TEMPERATURE CYCLES

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## ENVIRONMENTAL TEST REPORT

CENTRAL TECH FILE

K. L. Shipley, 7531

April 1984

Exemption 6

Exemption 6

Approved

Exemption 6

Approved

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Name/Org.: Eric Holzer / DOE SNL Date: April 18, 2018

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Exemption 6

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## INTRODUCTION

The purpose of this test was to determine the temperature response of MC3775 and MC3761 components, in the W31, to the temperature cycles in STS storage requirements. The test was requested by <sup>Exemption 6</sup>, 5124, on February 13, 1984. Testing started March 26, 1984, and was completed March 30, 1984. Test engineer was K. L. Shipley, 7531; test personnel were B. G. Strait, and <sup>Exemption 6</sup> --both of Division 7531.

## SUMMARY

This test consisted of sub <sup>Exemption 6</sup> a W31 fireset and pressure cover to two cycles of a square wave thermal profile between the limits of 160°F and -65°F. Temperature response at seven locations within the unit were recorded. The testing was done in the north end of the EC 70 chamber.

## PROCEDURE AND RESULTS

Two thermal cycles were required for this test. Details of the cycle are presented in Figure 1. Instrumentation consisted of seven thermocouples located internal to the unit. When the unit was received at Climatic, the thermocouple leads were marked with Numbers 1 through 7 with no indication as to their location. After the unit was set up in the north end of EC 70, a thermocouple was located adjacent to the unit so as to measure the free air temperature. Testing was started at noon on March 26, 1984. Temperature cycling was completed approximately 8:00 p.m. on March 30, 1984, and temperature recording was stopped on April 2, 1984. Figure 2 shows the temperature record for the free air, and Figures 3-9 are temperature records of Thermocouples 1 through 7, respectively.

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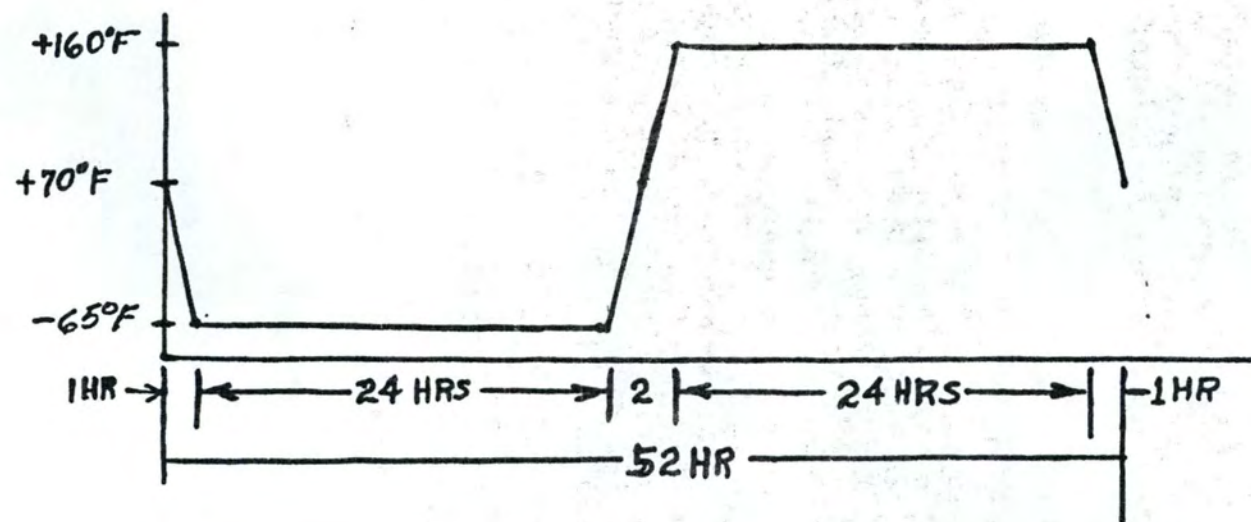
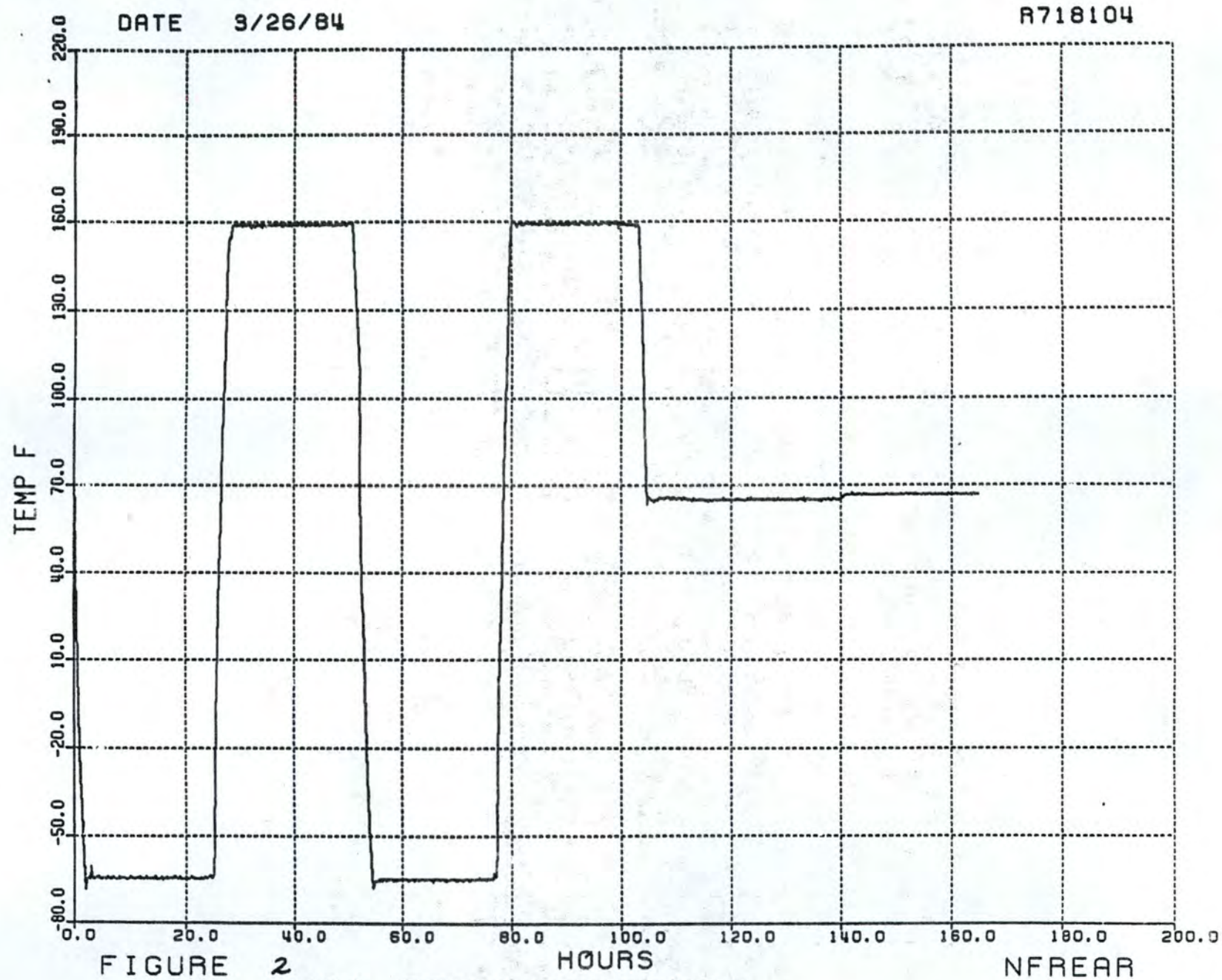


Figure 1  
Thermal Cycle Requirements

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FIGURE 3

W31 TEMP RESPONSE

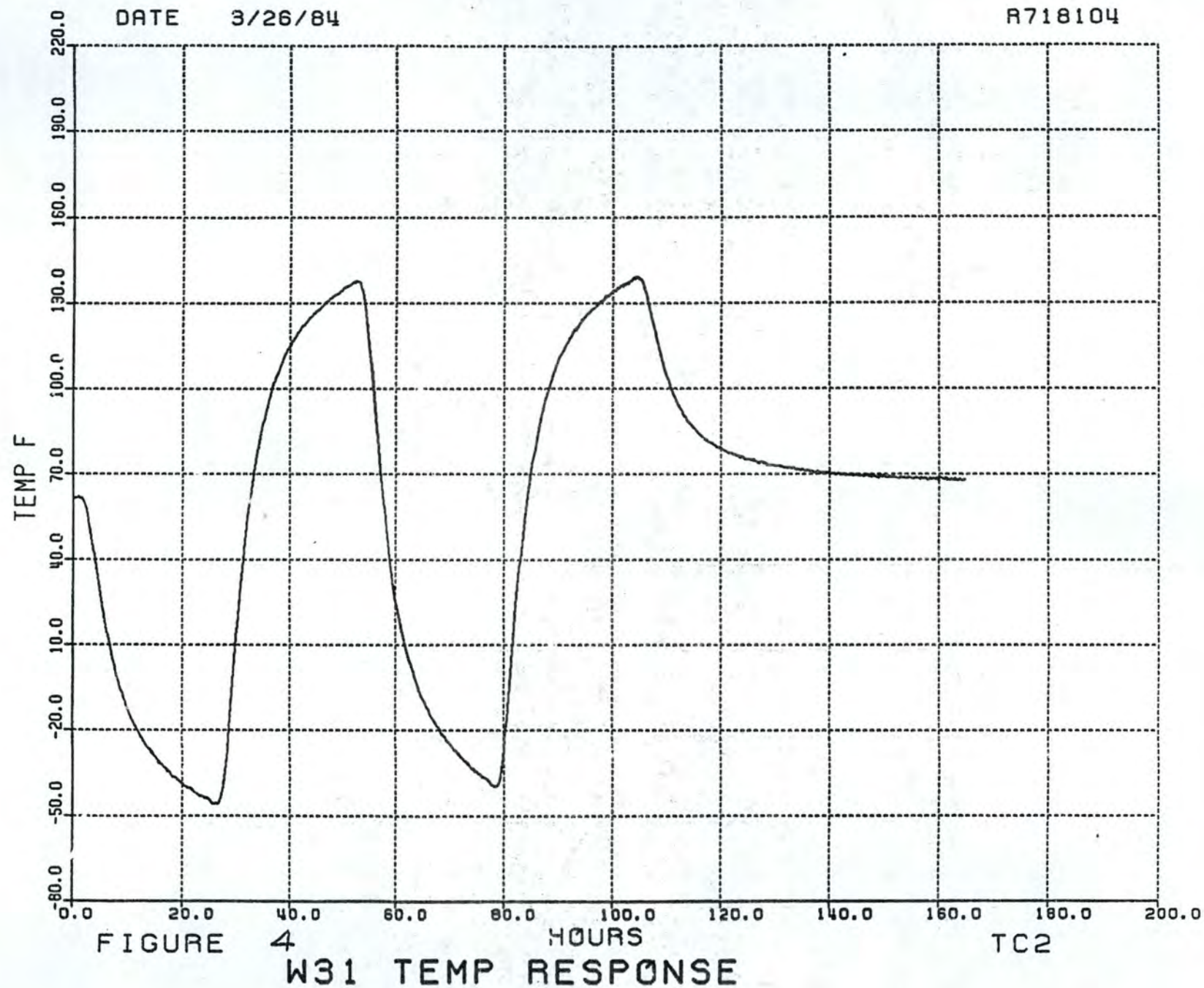
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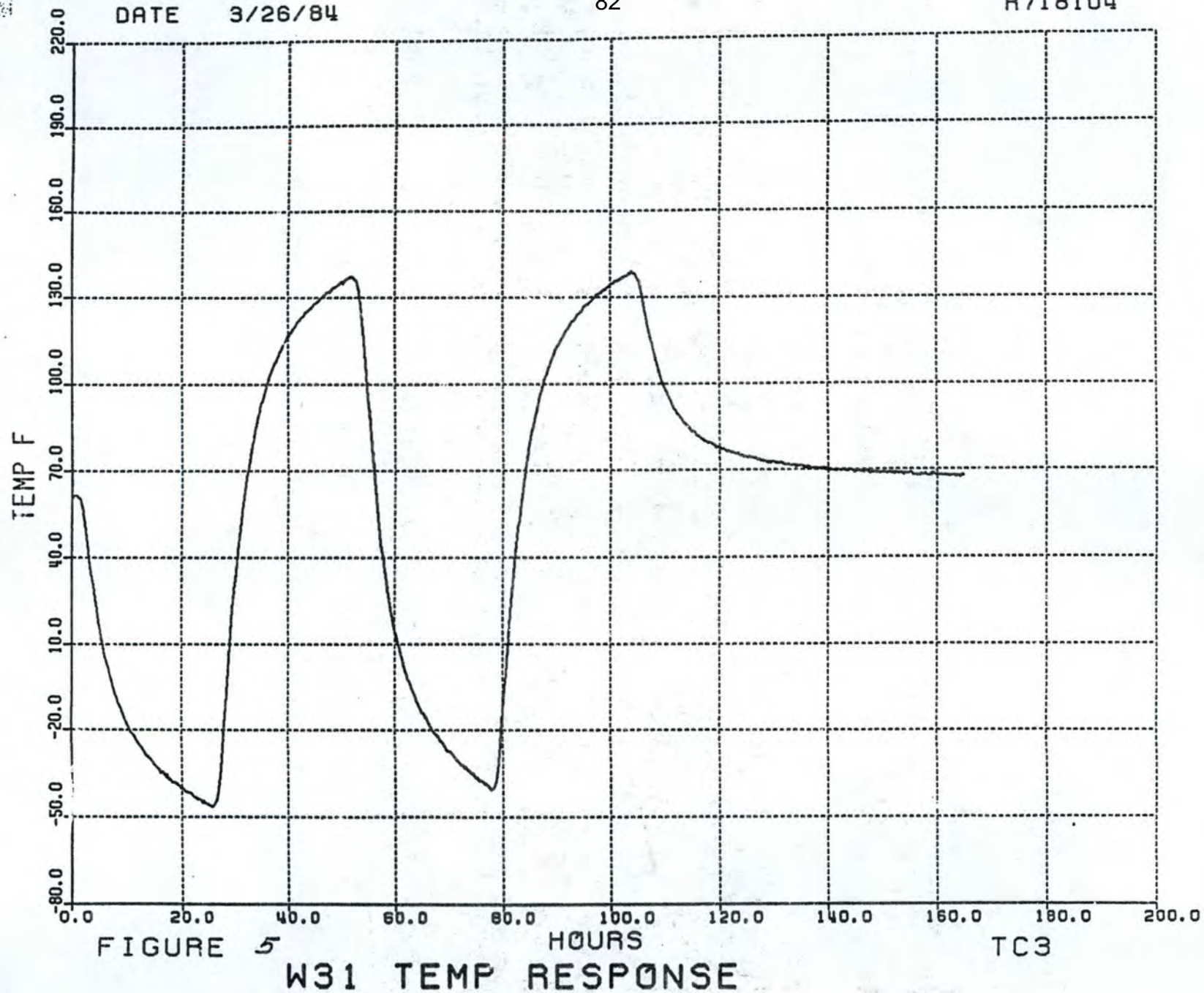
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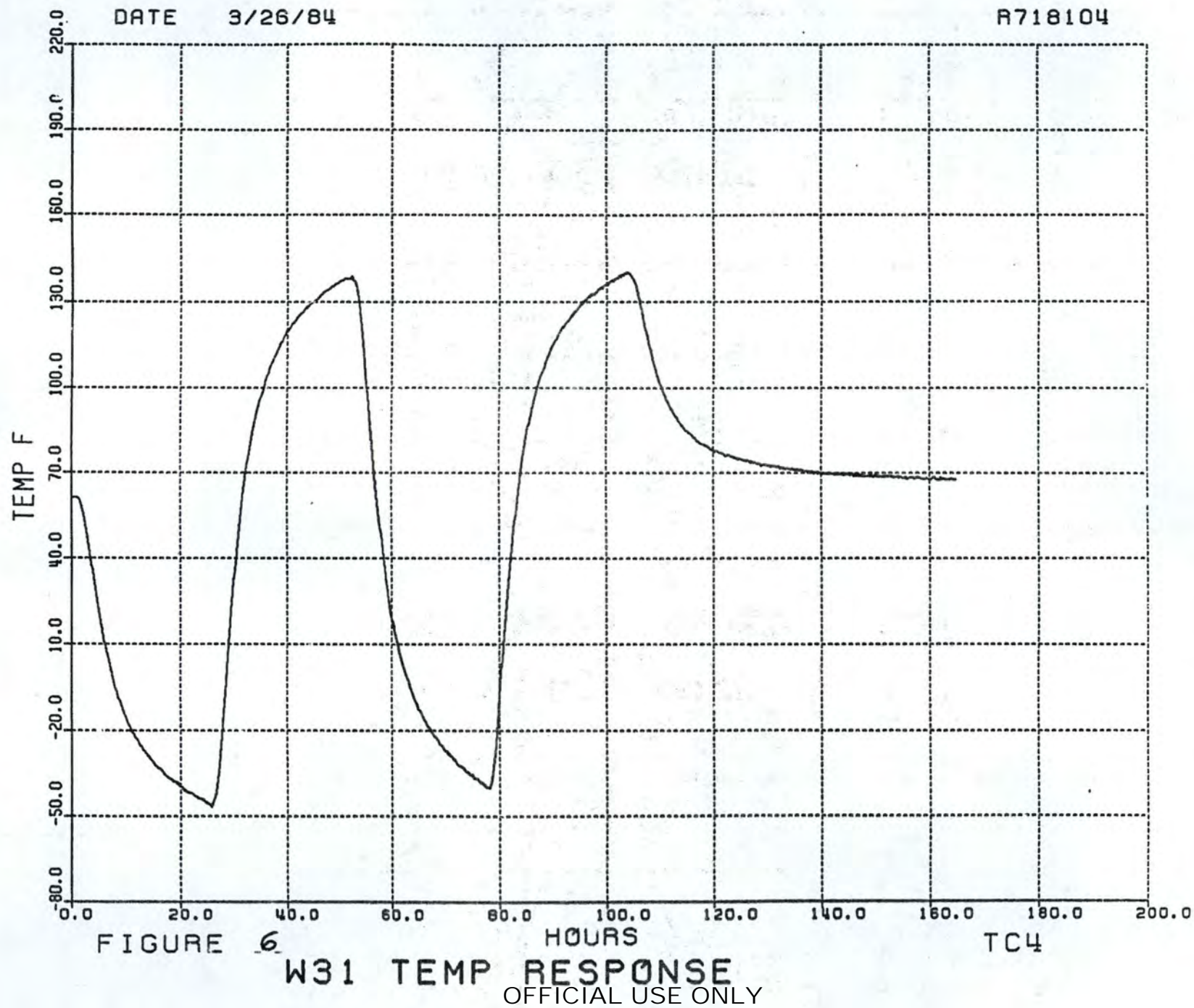
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FIGURE 7

W31 TEMP RESPONSE

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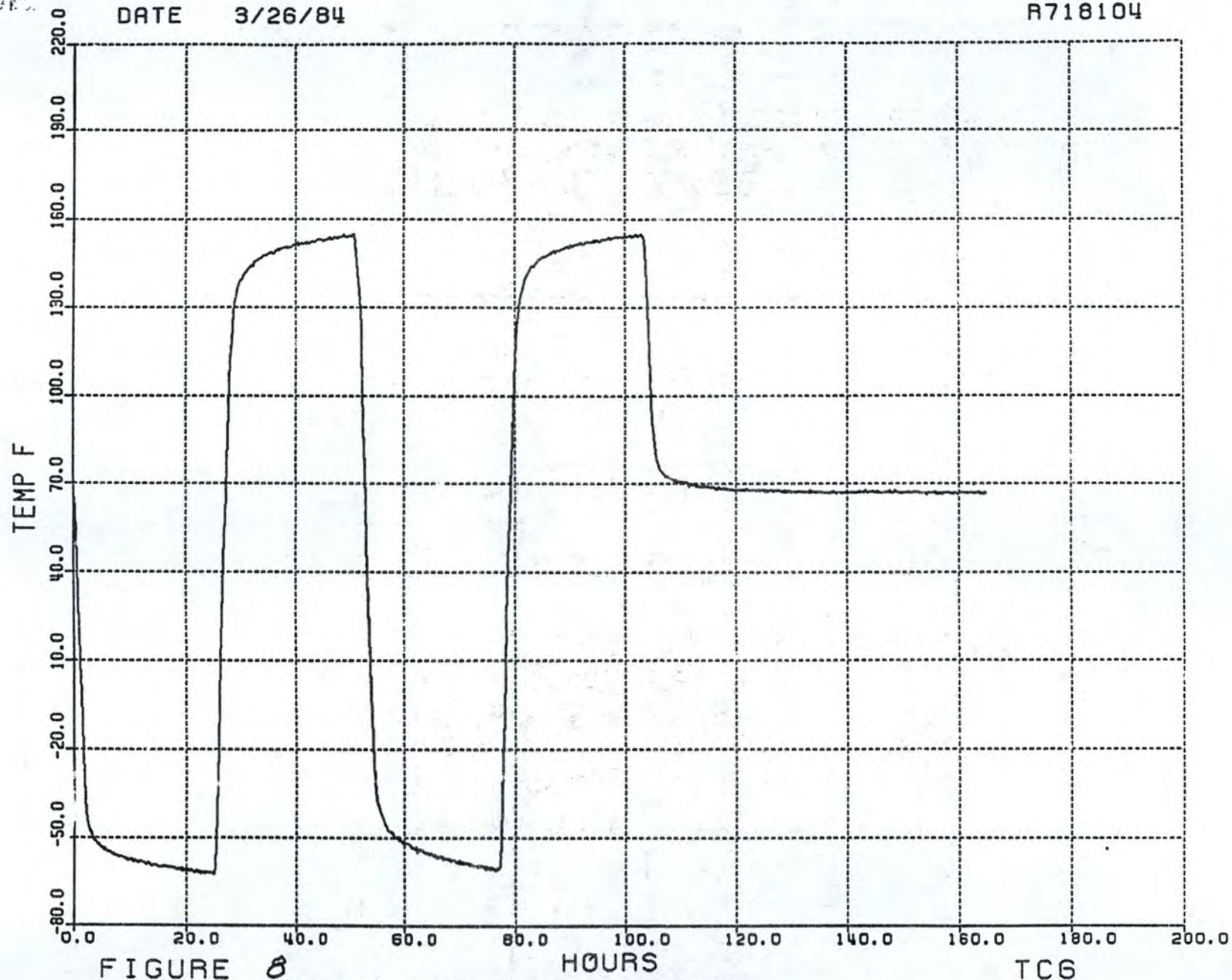


FIGURE 8

W31 TEMP RESPONSE

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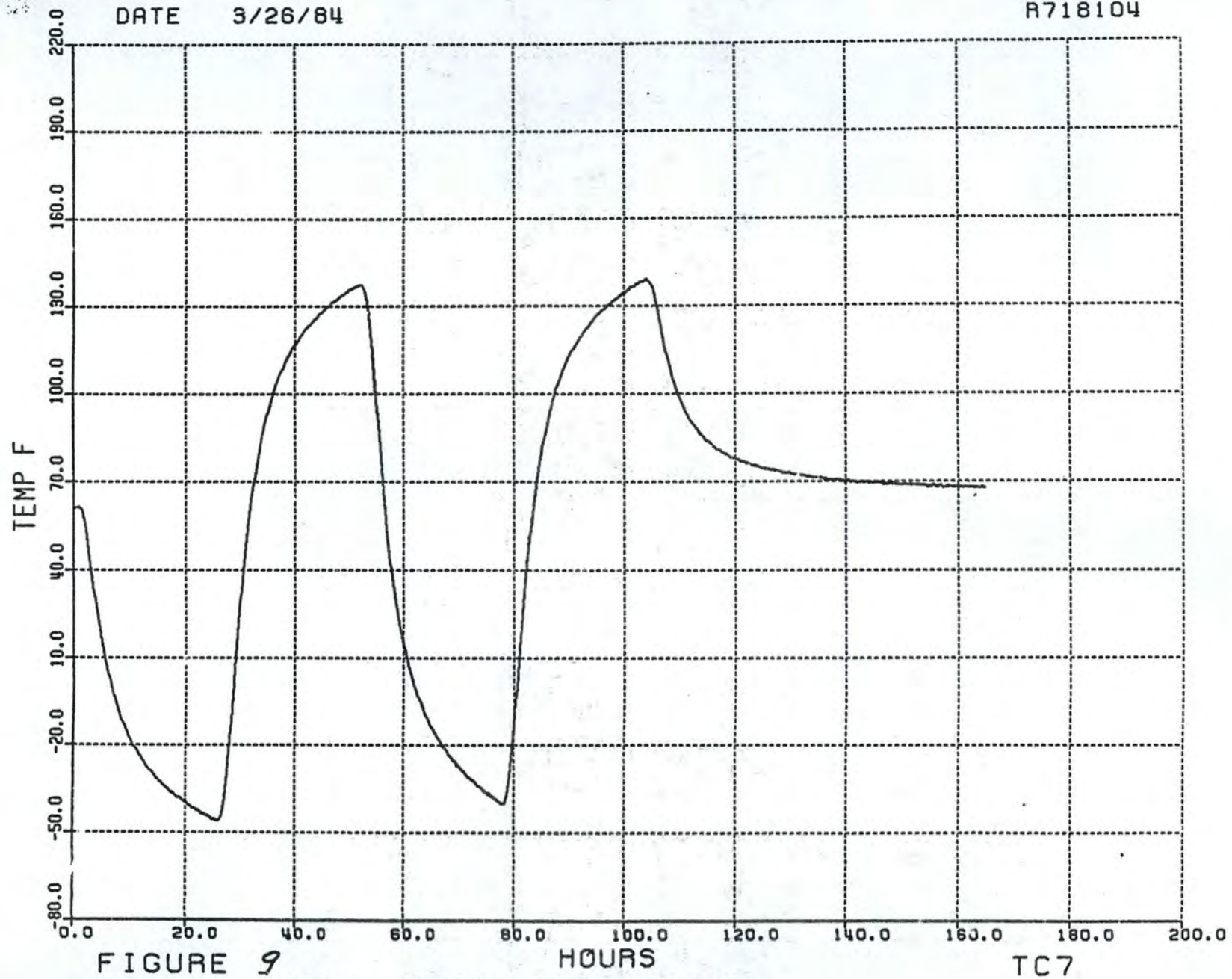


FIGURE 9

W31 TEMP RESPONSE

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